Recovery Act Program Plan

Cross-Agency Support: Institutional Investments

Within the
American Recovery and Reinvestment Act of 2009

June 15, 2010

Introduction

This is the plan for Cross-Agency Support (CAS): Institutional Investments, funded by the American Reinvestment and Recovery Act (ARRA) under the Treasury Account Symbol (TAS) 80-0121.

A work package is a discrete amount of planned activity and may be performed by different providers and on different schedules. NASA created a total of twelve work packages (repair activities of similar kind, area, or operation) that will be subject to NASA's standard processes and procedures for construction of facilities.

Two of the original nine work packages were competitively awarded. Competition resulted in prices that were less than the government estimates. This freed budget for additional repairs. As execution of the repairs progressed, contingency costs were less than budgeted. In time, there was sufficient budget to fund three additional work packages. The three packages consist of additional roof replacements and repair of precast exposed aggregate faced panels on thirty more buildings. These additional repairs are similar to the work in the original nine packages.

Objectives

Program Purpose

To accomplish its science and technical missions, NASA relies on the availability of core institutional services. The Institutional Investments Program assures the availability of critical facilities and meets Agency infrastructure needs for the safe and efficient conduct of Agency missions. Recovery funds will be used to sustain NASA critical infrastructure by repairing the Johnson Space Center facilities damaged during Hurricane Ike in September 2008.

Public Benefits

Recovery Act funds for Institutional Investments Program will create jobs and assure the availability of infrastructure capabilities critical to NASA's mission success. Maintaining the ability to conduct NASA's programs effectively and efficiently, by having key infrastructure available, ensures public funds are well-spent, and that scientific and engineering knowledge from programs can be transferred to the public sector.

Institutional Investments funds the critical infrastructure investments required at all NASA installations to ensure employees can safely and efficiently conduct the Agency's missions. Institutional Investments funding ensures that NASA's facilities and field installations meet the Agency's infrastructure needs in a safe, secure, and environmentally sound manner. Activities implement sustainable design practices, and support compliance with state and national environmental laws and initiatives outlined under the Energy Policy Act of 2005.

The facilities being repaired with Institutional Investments funding at the Johnson Space Center in Houston, Texas, are crucial to NASA's human spaceflight missions. These missions include but are not limited to flyout of the Space Shuttle Program, completion of assembly of the International Space Station, operation, and utilization of the ISS, implementation of the Constellation Program including the Orion Project and support for Commercial Crew & Cargo Program.

Information about this program is available to the public in the following ways:

- Plans are available at the NASA.gov/recovery website;

- Solicitations and other procurement information is available at http://www.fedbizops.com/; and
- Performance information reported by the recipients will be available at www.recovery.gov.

Projects and Activities

Scope

The activities involve construction work including repair of roofs and loggia on several dozen buildings at the Johnson Space Center in Houston, Texas. They also include replacement of leaking windows; waterproofing of exterior building walls; repair of street, parking lot, and sidewalk lights; reconstruction of a hangar at Ellington field and safing of a barge dock on Clear Lake.

The hurricane damage was extensive and urgent repairs were undertaken in Phase I. Phase I included the work that was most immediate, and is underway. Phase II of the program addresses the repair effort. For more information, go to http://www.nasa.gov/recovery/agency-plans/acquisition/cas.html.

The Recovery funds for the Cross-Agency Support: Institutional Investments Program adds $50 million for repair of buildings at Johnson Space Center damaged by Hurricane Ike in September 2008. NASA grouped the repair activities in a manner that balanced, to the maximum extent practicable, competition and small business participation. NASA created a total of twelve work packages (repair activities of similar kind, area, or operation) that will be managed to the same schedule, and subject to NASA's standard processes and procedures for construction of facilities. Two of the twelve projects are complete.

Acquisition Characteristics

All work will be accomplished through contracts. The recipients of this work will be for profit organizations and small businesses. The primary beneficiaries are Engineers/Architects and Builders/Contractors/Developers.

Major Planned Program Milestones

Schedules for all twelve work packages have been developed. This section summarizes major milestones. This program plan and other information related to Institutional Investments for CAS activities are available on the NASA's Recovery website at http://www.nasa.gov/recovery/agency-plans/acquisition/cas.html.

Milestone 1: Issue solicitations.

Expected Completion Date for Milestone 1: May 2009

Actual Completion Date for Milestone 1: August 2009

Reason for Change: The 8(a) company selected to perform the work package for safing the barge dock declined to propose. NASA revised the acquisition strategy and coordinated with the Small Business Administration before a solicitation was issued to another company.

Milestone 2: Award contracts.

Expected Completion Date for Milestone 2: July 2009

Actual Completion Date for Milestone 2: January 2010.

Reason for Change: Negotiations with the 8(a) companies took longer than planned. All but one of the contracts was awarded by the end of September 2009. The last one to be awarded involved the delayed solicitation for safing the barge dock.

Milestone 3: Complete construction.

Expected Completion Date for Milestone 3: September 2010

Monitoring and Evaluation

NASA uses multiple methods, processes, and entities for monitoring and evaluating its performance. These same processes and procedures will be used for activities funded under the Recovery Act. NASA's programs are assessed for relevance, quality, and performance. A relevance review assures alignment with national priorities; alignment with the NASA Strategic Plan; impact on related fields of research or technology; and alignment with "customer" (users of NASA data, research results, etc.) needs. Determining quality is generally prospective and assures "best value" for an investment, using peer review processes. Performance reviews evaluate whether a program is on track to meet its baseline performance commitments (cost, schedule, science/technical deliverable).

Reviews are conducted internal and external to the Agency. Entities such as the NASA Advisory Council (NAC) and the National Research Council perform external evaluations to assess NASA's program content and direction. Additional independent reviews are commissioned by the NASA Administrator or responsible mission organization to review programs for relevance and quality, as well as performance. Reviews are rigorous and methodical, and focused on the program's methods, results, and findings by others in the field with requisite expertise, and independence.

Responsibility for program and project management and their control mechanisms (NASA Procedural Requirements[*] (NPR) 7120 series), institutional management (NPR 8500 series), and financial management (NPR 9010 and 9120 series), occurs at all management levels of the Agency. NASA's management monitors different aspects of program or institutional performance, at the highest Agency levels, and uses a rigorous structure of program and management reviews for Agency-level decisions. To continue through each phase of development, programs must demonstrate, on an on-going basis and at key lifecycle junctures, an ability to manage in a manner that produces identifiable results, and must document performance against previously defined commitments including multi-year outputs, annual performance goals, milestones, and other metrics, as appropriate.

NASA internally monitors performance through monthly and quarterly reviews, at each management level. At the senior management level, program reviews, accompanied by an independent (internal) assessment, occur across all mission areas (aeronautics, science, space operations and exploration systems), and with an in-depth review each quarter rotating among the mission organizations. Senior management also reviews institutional data (finance, human capital, acquisition, infrastructure), and aggregated Agency measures and metrics, e.g., safety, crosscutting technical and non-technical issues. The data reviewed, and the accompanying analysis, allows the Agency to focus on, and proactively address, issues that could lead to not achieving desired performance goals.

Specifically, standard NASA Construction of Facilities processes and procedures are defined in NASA Procedural Document (NPD) 7120.7 (NASA Information Technology and Institutional

[*] The NASA Online Directives Information System Library, ensures access by NASA employees and contractors to the most current documentation.

Infrastructure Program and Project Management Requirements). The Facilities Program is described in NPR 8820.2F (Facilities Project Requirements). Each construction activity will be monitored and desired progress evaluated through periodic reports of project conditions and activities, including safety related information from the construction contractor. Each Statement of Work (SOW) will also have defined metrics including where appropriate a schedule of values that will be used as the basis for reviewing and approving monthly progress payments to the contractor. The requirements of the SOW emphasize and ensure high-quality project work by the contractor. As work progresses, the contractor receives regular quality assurance inspections from the project team, including documentation reviews, previews of materials and methods prior to installation, and physical inspections.

Performance Measures

The CAS Program consists of four projects. These four projects encompass twelve individual work packages. The projects and work packages will be monitored and evaluated as described in Monitoring and Evaluation Section of the Program Plan. Standard Construction of Facilities procedures and processes will be used to monitor and evaluate performance on the Recovery Act Program work for Cross-Agency Support: Institutional Investments. Schedule, cost, and quality performance will be measured on each project.

The original priorities for these individual projects were to be determined through competition and prioritization among other 2010 and 2011 Program Construction of Facility projects. NASA estimates that Recovery Act funds have accelerated the implementation of these projects by one year or more.

Table 1

Measure Description	**Percent Schedule Growth (PSG) will measure the percentage complete for each of the four projects vs. the progress identified on the construction schedule.**
Explanation of Measure	This measure is calculated by the following: PSG equals projected percent complete minus actual percent complete, where projected percent complete is based on the contractor-submitted construction schedule. That schedule encompasses the total number of days allotted in the contract and starts upon Notice to Proceed.
Measure Type	Output
Measure Frequency	Quarterly
Original Program Target (without ARRA funds)	Zero percent. These activities were not planned for completion in this timeframe.
Revised Program Target (with ARRA funds)	90%
Estimated Incremental Change in Performance (due to ARRA funds, estimated on May 15, 2009)	Approximately one year or more acceleration from when NASA would have been able to apply funds.

Revised Program Target (due to ARRA funds, estimated on May 31, 2010)	No revisions have been made to the target.
Goal Lead	Deputy Associate Administrator, Mission Support Directorate
Measure Description	**Quality Performance is measured on a monthly basis based upon the number of Deficiency Reports contained within the Daily Quality Control Reports in a monthly period.**
Explanation of Measure	Quality will be measured by conformance with contract requirements through quality assurance inspections. Quality performance will be expressed as a ratio of the number of deficiencies noted through inspections over the total number of reports filed for the month.
Measure Type	Output
Measure Frequency	Quarterly
Original Program Target (without ARRA funds)	These activities were not planned for completion in this timeframe.
Revised Program Target (with ARRA funds)	Zero.
Estimated Incremental Change in Performance (due to ARRA funds, estimated on May 15, 2009)	Not applicable.
Revised Program Target (due to ARRA funds, estimated on May 31, 2010)	No revisions have been made to the target.
Goal Lead	Deputy Associate Administrator, Mission Support Directorate
Measure Description	**Variance from the planned cumulative obligations for the NASA Cross Agency Support Institutional Investments Program.**

Explanation of Measure	A key aspect of the American Recovery and Reinvestment Act is to assure the timely obligation of funds to the intended beneficiaries. NASA plans to make every effort to assure this happens on the plan that it has put forward, which has been designed to also maintain a prudent use of taxpayer funds, and provide key research and development program deliverables to the benefit of the public. An obligation of funds means a binding agreement is made with NASA's contractors and grantees that will result in outlays (or a payment for the services or goods they provided), immediately or in the future. NASA will measure its progress toward the planned obligations to-date, on a quarterly basis. NASA's baseline obligation plan (when available) is posted at http://www.nasa.gov/recovery/.
Measure Type	Output
Measure Frequency	Quarterly
Original Program Target (without ARRA funds)	±10%
Revised Program Target (with ARRA funds)	±10%
Estimated Incremental Change in Performance (due to ARRA funds, estimated on May 15, 2009)	Not applicable.
Revised Program Target (due to ARRA funds, estimated on May 31, 2010)	No revisions have been made to the target.
Goal Lead (Name)	Deputy Associate Administrator, Mission Support Directorate
Measure Description	**Variance from the planned cumulative outlays for the NASA Cross Agency Support Institutional Investments Program.**

Explanation of Measure	A key aspect of the American Recovery and Reinvestment Act is to assure the timely outlay of funds to the intended beneficiaries. NASA plans to make every effort to assure this happens on the plan that it has put forward, which has been designed to also maintain a prudent use of taxpayer funds, and provide key research and development program deliverables to the benefit of the public. An outlay of funds means a payment that fulfills an obligation and is the measure of Government spending. This is a payment for the services or goods the contractor or grantee provided. NASA will measure its progress toward the planned outlays to-date, on a quarterly basis. NASA's baseline outlay plan (when available) is posted at http://www.nasa.gov/recovery/.
Measure Type	Output
Measure Frequency	Quarterly
Original Program Target (without ARRA funds)	±10%
Revised Program Target (with ARRA funds)	±10%
Estimated Incremental Change in Performance (due to ARRA funds, estimated on May 15, 2009)	Not applicable.
Revised Program Target (due to ARRA funds, estimated on May 31, 2010)	No revisions have been made to the target.
Goal Lead	Deputy Associate Administrator, Mission Support Directorate

Transparency and Accountability

NASA uses multiple methods to assure transparency and accountability, and will apply these standard processes and procedures to activities supported by Recovery Act funds. The principle of transparency is applied to program and fund allocation planning methods, and in reporting, both internal and external to the Agency, of progress toward the resultant plans. NASA requires accountability at all levels of management and from all of its cost-sharing and non-cost sharing partners, contractors, and grantees for the timely delivery and quality of products.

Rigor is applied to NASA programs' design, structure, management, and funding to ensure that resources reach the intended beneficiaries and address the programs' purpose directly. Transparent, merit-based criteria and decision-making procedures are employed at multiple steps in this process. Governing documents, such as the NASA Strategic Plan and supporting mission specific plans, guide the activities of these programs and provide the context through

which specific science and research objectives are formulated, investigations are solicited, and missions or activities that address them are planned. Missions are prioritized based on expert opinion such as Decadal Surveys on science, available budget resources, technological maturity, and partnership opportunities.

As explained in detail in the Monitoring and Evaluation Section of this Program Plan, NASA will employ multiple methods of review and evaluation of progress toward the goals of this Program Plan. Reviews assure that funds are applied as intended, and that programs meet commitments and objectives. Managers at all levels will be held accountable both via review of their progress and individual performance plans. At NASA, all employee performance plans for Federal managers include elements tied to the program plans for which they are responsible.

NASA will hold contractors accountable for the timely delivery and quality of products. Award fee reviews, where appropriate, will be performed on contracts and past performance evaluations are integral in solicitation criteria. Grants and cooperative agreements are subject whenever possible to deliverables and milestones that must be met in order to receive funding renewal. International and Federal government partners work in accordance with applicable Memoranda of Understanding (MoUs) and agreements, which generally detail schedule and performance commitments.

Contractor and government accounting systems are audited periodically to ensure compliance with government standards. Specific reports that record and track the obligation and expenditure of program funds including contractor monthly and quarterly reports, reports on budget execution and budgetary resources, a year-end closing statement, and the annual Performance and Accountability Report. Additionally, NASA will cooperate with the Government Accountability Office and the NASA Office of Inspector General through various engagements and audits that monitor specific items regarding Recovery Act funds.

To assure transparency and accountability to the public and its key stakeholders, NASA will post its current plans, and outline any revisions to previous versions on the Agency Recovery Act website. Information will be available on key events, the status of on-going activities, outcomes of Inspector General Audits and the accomplishment of and performance toward, annual and long-term Recovery Program goals. Web links will be provided, where applicable to posted solicitations, awards, and grantee performance, among other relevant information. For this important information on NASA efforts surrounding its Recovery Act funds, see http://www.nasa.gov/recovery/.

Federal Infrastructure Investments

NASA uses best practices of sustainable design, maintainable design, building commissioning, and safety and security are incorporated, to the maximum extent possible, into the planning and execution of facility projects. Where applicable, NASA will follow the appropriate Agency requirements outlined below.

NASA Facility Project Managers ensure project designs take into account the energy demands, intended use, occupancy, operations, plug loads, and design to earn the ENERGY STAR targets for new construction and major renovation where applicable. ENERGY STAR is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy to help save money and protect the environment through energy efficient products and practices (http://www.energystar.gov/). NASA Facility Project Managers are also responsible for ensuring compliance with Executive Order (EO) 13423, Strengthening Federal Environmental, Energy, and Transportation Management.

For new construction, NASA is striving to reduce the energy cost budget by 30 percent

compared to the baseline building performance rating per the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc., (http://www.ashrae.org/) and the Illuminating Engineering Society of North America (http://www.iesna.org/). For major renovations, NASA is aiming to reduce the energy cost budget by 20 percent from pre-renovations 2003 baseline.

NASA has adopted the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) as its performance measure for sustainable development (http://www.usgbc.org). LEED provides a structure for identifying and implementing practical and measurable green building design, construction, and operations. It is NASA policy that all new construction and major building renovation projects meet the minimum LEED Silver rating.